

FOG DISPENSER



JANUARY DINNER MEETING

MAIN PROGRAM:

VAV WITH IAQ AND A CURE FOR THE SPREAD OF THE AIRBORNE FLU VIRUS

SPEAKER: THOMAS S. WEAVER, P.E.
PRESIDENT AND CHIEF EXECUTIVE OFFICER



Thomas Weaver graduated in 1983 from California Polytechnic University San Luis Obispo with a B.S. in Mechanical Engineering and is a Registered Professional Engineer in California.

He began his engineering career as a field engineer on a 130 MW geothermal power plant in Northern California where he was involved in all aspects of the power plant's mechanical systems. Tom went on to become a project manager for many large construction projects in San Francisco, supporting the HVAC systems' installation while working for a mechanical subcontractor.

Tom became president of Conservation Mechanical Systems with Mike Scofield in 2008. He is an active member and past president of the Golden Gate ASHRAE chapter as well as a past president of the Redwood Empire Section.

Presentation Summary:

As we move into the winter Flu Season, it is best to understand what facilitates the spread of airborne infectious microorganisms in the built environment. As it turns out,

continued on next page

WHEN:

**Wednesday, January 11,
5:30-8:30 pm**

WHERE:

**PG&E ENERGY CENTER
851 Howard Street
San Francisco, CA 94103**

AGENDA:

5:30 pm

Registration and Social Hour

6:30 pm

**Dinner, Announcements
and Introductions**

7:30 pm Main Program

8:30 pm Adjourn

COST:

GG ASHRAE Members:

Before 5 pm, January 5 \$40

After 5 pm, January 5 \$50

Non-Members:

Before 5 pm, January 5 \$50

After 5 pm, January 5 \$55

Students/Voucher Holder

Free, but please register before December 10 to help us better plan for meal and venue seats.

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**GOLDEN GATE ASHRAE
FOG DISPENSER
VOLUME L13- NUMBER 4
JANUARY 2017 COVER**

we catch cold in the winter not because it is “cold” in winter but because it is “dry” in winter. When we bring in dry outdoor air to ventilate our schools and office buildings, the indoor relative humidity (RH) drops. Recent research has shown that, when room RH drops below 40%, the droplet nuclei containing the pathogen stays buoyant and viable in the human breathing zone for a longer period. Also, artificially high room air change rates and air turbulence in the breathing zone spreads the airborne virus further from the host to susceptible humans within the room.

Overhead delivery Variable Air Volume (VAV) supply air systems remain the most popular HVAC cooling design for schools and office buildings in California. The use of a Heat Recovery Economizer (HRE) and an adiabatic Direct Evaporative Cooler/Humidifier (DEC/H), during the dry California winter condition, will offer a remedy. This all outdoor air design offers the building owner significant cooling and heating energy savings while furnishing all outdoor air for better Indoor Air Quality (IAQ).

This presentation is based on an ASHRAE Journal , May 2016, article entitled “Variable Air Volume System Heat Recovery Economizer”.

EVENT CALENDAR 2017

FOR MORE
INFORMATION
AND DETAILS
GO TO
WWW.GGASHRAE.ORG

- **WEDNESDAY, JANUARY 11, 2017** **DINNER**
LOCATION : PGE
SPEAKER: Tom Weaver
TOPIC: VAV WITH IAQ AND A CURE FOR THE SPREAD OF THE AIRBORNE FLU VIRUS
- **THURSDAY, FEBRUARY 09, 2017**..... **LUNCH**
LOCATION: PGE
SPEAKER: Liz Whiteley
TOPIC: Natural Refrigerants-North America Sustainable Refrigeration Council
- **THURSDAY, MARCH 09, 2017**..... **DINNER-JOINT SF/RE**
LOCATION: 4 Points-Sheraton
SPEAKER/TOPIC: TBD
- **THURSDAY, APRIL 13, 2017** **DINNER**
LOCATION: PGE
SPEAKER: Jessica Centrurelli
TOPIC: HX
- **THURSDAY, MAY 11, 2017**..... **DINNER PRODUCT SHOW**
LOCATION: PGE
SPEAKER/TOPIC: TBD
- **THURSDAY, JUNE 08, 2017** **LAST DINNER**
LOCATION: SCOTT'S
SPEAKER/TOPIC: TBD

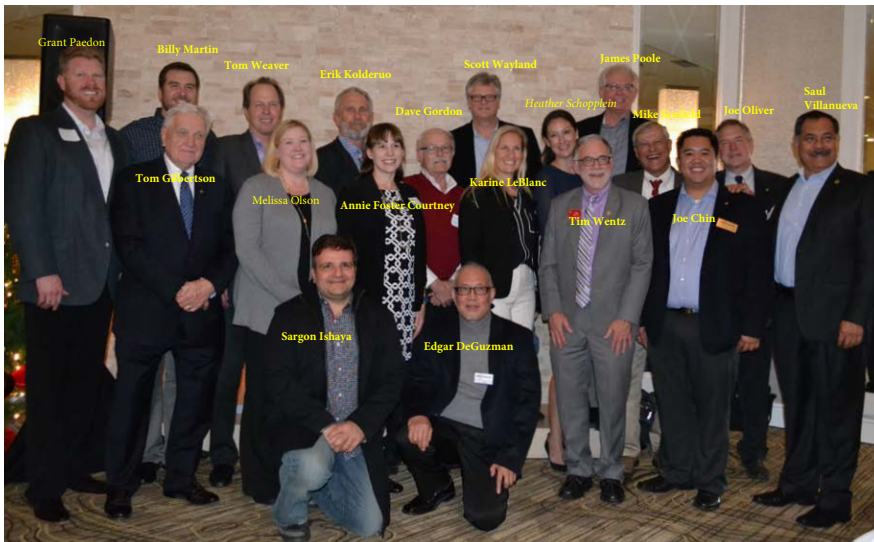
GOLDEN GATE CHAPTER PRESIDENT'S MESSAGE, JANUARY 2017

HAPPY NEW YEAR!

Welcome Golden Gate ASHRAE members and friends,

In the past I have in the past tried to keep our members up to date on the latest important activities related to the chapter. This month I hope this more personal message finds you well after the holiday break and beginning the New Year with optimism.

I spent my own holiday break with family over x-mas and the remaining week in Tahoe teaching my little man how to ski. As I write this I reflect back to how much the responsibility of raising a boy has changed the way I act and view my actions even at times that he's not with me. I often find myself reflecting on whether I'm conducting my life as the man I hope he becomes; I have definitely become a better man due to this daily reflection on my own actions. With close to 40% of all the planet's carbon being contributed to uses within the built environment being a father has also caused me to reflect upon all the potential impact I can have towards leaving him a planet with more resources and better quality of life to grow up in.



At our December meeting we were treated to a very special treat of hosting our society president at the San Mateo Marriott. We drew a full house with lots of questions at the end. Thanks to the great suggestion of Edgar DeGuzman we also were able to line up the 19 past chapter presidents before the meeting for a group photo (see photo). I was shocked but pleased to see that more than 20% of our Dec attendees were past presidents from one chapter or another; this fact is more evidence that ASHRAE is

truly a grass roots bottom up organization.

If you're like me you're still catching up from time off during the holiday break but I hope you can make the time, to attend this next dinner meeting event where our past GGASHRAE president Tom Weaver will present *"VAV with IAQ and a Cure for the Spread of the Airborne Flu Virus"* at the Pacific Energy Center on Jan 11th.

Tyler Bradshaw, President 2016-2017
ASHRAE Golden Gate Chapter





January 2017...Already!!

Tom Gilbertson, Chapter Historian

OK..."2016" is now in the History books!

.....Might be a good time to see what really "worked" ...last year...and why?

Golden Gate Chapter Members were confronted with demands for their innovative service.... Confronted by a considerable number of regulations. Regulations that historically, going back only 2 to 3 years...and certainly regulations and codes that were not present 30 to 40 years ago.

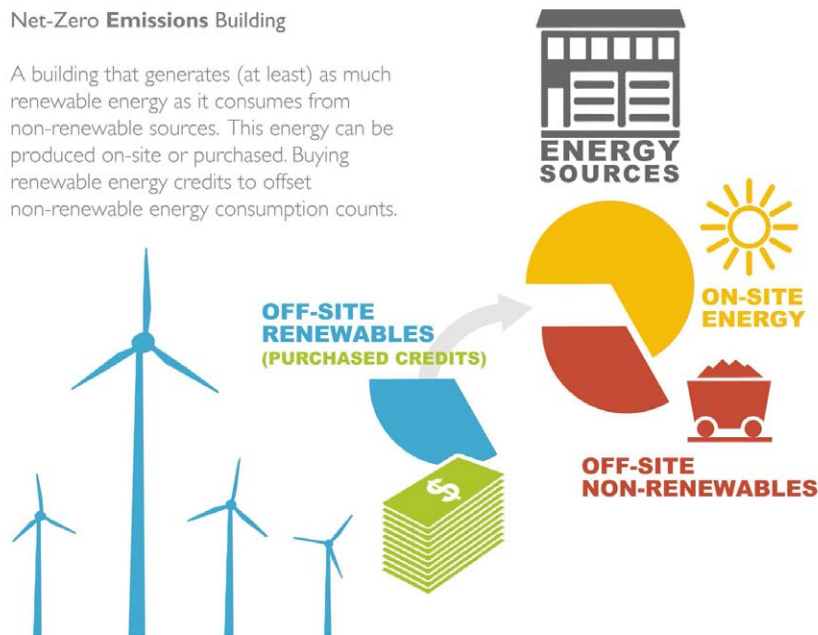
"NET ZERO" design seemed to break more on the scene in just the last year...yes....it has been around for some time but only recently have we seen very many completed projected that accomplished this very noble undertaking.

(As Society President Tim Wentz explained so eloquently last evening, at the Golden Gate and San Jose Chapters' joint meeting....maybe it is time to drop some old customs...get on with something new!)

With all of the Code-enforcing demands, for design of equipment, by manufactures, and for system designers that must address Building Codes that stipulate lower electrical lighting design, and vastly improved envelope construction...and all of the Green Globe and/or Green Building-LEED requirements... why did we not, see more NET-ZERO-delivered buildings?

The constraints on design certainly move the design-concepts in that direction increased insulation. for everything...restrictions on glazing performance ...restrictions on the SEER's of manufactured equipment... restrictions on lighting levels...demanding control and building management systems...highly efficient condensing boilers...The "Rules" for design are...thoroughly tightened...over what was the historical approach.

An example of a **NET-ZERO Building** comes to mind... consider the following...



Initially, a calculated load of 111-tons in an existing, single-story concrete tilt-up building...then the march of the design approach to NET-ZERO!....the addition of copiously-increased insulation on walls and roofs...control strategies for night-time purging.... lighting level reductions because of the use of day-lighting...and the addition of photovoltaic panels...and a recalculated cooling load...of 15-tons!

So...what made the project become a **NET-ZERO Building**?...The answer....The Almighty \$\$\$!...it was because of a very cold-hearted banker!

How can this be, you ask?...did the demanding regulations create the **NET-ZERO Building**?...absolutely not!

What the very clever developer discovered is that by designing the building to get by with 15-tons vs. the original 111-tons...and all of the day-lighting, insulation, shading, and clever controls...resulting in greatly reduced utility cost....made the building worth \$3,000,000.00 **MORE!** ...More, because of the utility-operating cost reduction...and the building's modifications were financed for the agreed upon money which established the building's value...and the owner just was able to keep the difference.

This was an existing building so the comparative-value was easily calculated...then compared...and then... the "value"...of the building increased because of the reduced operating costs...the designer/developer clearly spent much less money than the \$3,000,000.00... and he was able to keep the difference!....For those of you who don't recognize this concept....this is the great American way.

Regulations certainly have their place...but if you really want to get something done...make it profitable.....Legislating morality or good deeds...historically has been shown to be not very successful.

(As a quick side note to the project...the developer could not come to accepting the "15-ton" load...so they installed a 25-ton unit... just to be careful...BUT after three cooling seasons...they have yet to even turn the cooling unit "ON".)



Alyse Falconer, YEA Chair

Past Event

The YEA Ugly Sweater Party was another great success! The party was held at the PianoFight in San Francisco on December 8th and had over 50 engineers in attendance. Thank you to all that joined in the fun. If you missed out, there is another opportunity to network and meet other YEA-ers at our next event.



Upcoming Event

Please join the OAC+E Meeting with Bay Area Young Architects (BAYA) on Wednesday, February 22nd at the PlanGrid office, located at 2111 Mission Street, Suite 404. The event will be set-up as a panel discussion consisting of an Owner, Architect, Contractor and Engineer. The panel will walk-through the design process and what each team member needs from the other in order to be successful. The event cost \$5 per person and includes food and drinks. Please RSVP here: <https://www.eventbrite.com/e/oace-meeting-with-baya-tickets-30875153415>

OAC+E Joint Meeting with BAYA

- Bay Area Young Architects (BAYA) on Wednesday, February 22nd
- Event will be held at PlanGrid's office at 2111 Mission Street, Suite 404
- Cost \$5 per person for food and drinks - EventBrite



A panel consisting of an Owner, Architect, Contractor and Engineer will walk through the design process and what we each need from one another to be successful.



Brian Chacon, Membership Promotion Chair

Have you been a member for 12 years? Upgrade from "Associate" to "Member"!

If you are a member with 12 years of active membership, update your profile and you will be upgraded from associate to member. Attending a technical school, college or university, and/ or professional registration all count towards your upgrade eligibility. You must update your membership bio online and send an email to membership@ashrae.org requesting advancement. Please copy me on the email Brian.chacon@trane.com.

Membership Promotion Committee help!

I am looking for volunteers to help on the Membership Promotion Committee. The role would include recruiting new members to join ASHRAE and helping with membership retention. The time commitment would be about an hour a week. Please contact me or the other committee or board members if you are interested in participating and contributing to our local and national society. We would be happy to answer any questions you have on the responsibilities. Link to my contact information is here <http://ggashrae.org/join.php>.

Membership Promotion Night!

We will have one more MP night in the spring, date TBD:

Get a free meal and a chance to win \$100! In an effort to recruit new members to ASHRAE, if you bring a non-member to the dinner meeting on TBD and they join ASHRAE, your next dinner meeting is free! Please make an effort to reach out to a potential new member and offer to bring them to a meeting.

Student SmartStart Program

I want to remind everyone about the great opportunity offered through the SmartStart student program. For \$51 year 1, \$77 year 2, and \$102 year 3, individuals transitioning from student to professional life can take advantage of a reduced ASHRAE membership. If you are interested, contact me personally and we can discuss success stories and different ways students and young members can take advantage of this opportunity!

<https://www.ashrae.org/membership--conferences/student-zone/membership-and-meetings/ashraes-smartstart-program>

Welcome New Members!

We are off to another successful year of retaining our current members and recruiting new ones. When renewing your memberships, please pay your local chapter dues AND Society dues. Reminder: Golden Gate (Local) and Society dues both need to be paid. Yes, those are two separate transactions. Throughout the year I will list the members who joined over the previous month, be sure to give our newest members a warm welcome! to another successful year of retaining our current members and recruiting new ones. When renewing your memberships, please pay your local chapter dues AND Society dues. Reminder: Golden Gate (Local) and Society dues both need to be paid. Yes, those are two separate transactions. Throughout the year I will list the members who joined over the previous month, be sure to give our newest members a warm welcome!

*Dr Yang-Seon Kim
Mr Michael T Calder
Mr Raymond Baldovino
Ms elyse widin
Luke T McDonald
Mr Dennis Frisk*

*David Sasai
Miss Wendy W. Wang
Alissa Roland
Alyssa N Behrens
Caitlin C Payne
Mr David Sasai*

*Dr Ed Cheng
Mr Dave W Carlton
Mr Mikhail Fuks
Mr Brad M Albi*

Jason Lesser, Research Promotion Chair

What is the RP Campaign?



The RP Campaign is an annual fundraising campaign benefiting the funding of numerous ASHRAE Programs. These programs include:

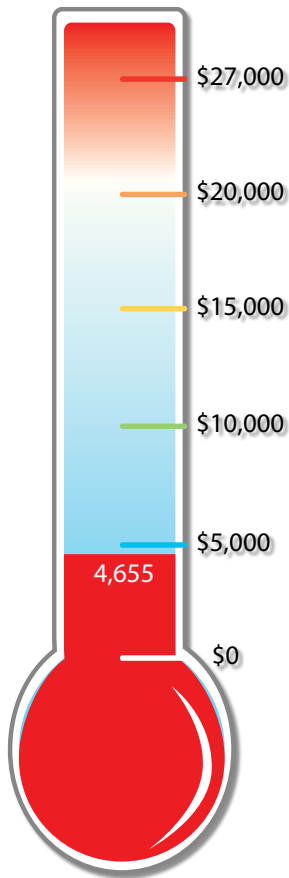
- **ASHRAE Research**
- **ASHRAE Scholarships for undergraduate students**
- **ASHRAE Learning Institute (ALI) development of new courses & materials**
- **Graduate Research Projects (Grants-in-Aid)**
- **Young Engineers in ASHRAE (YEA) Leadership Training**
- **Permanently endowed support to all of the above programs**

The RP Campaign is overseen by the RP Committee, a standing ASHRAE Committee. The Committee is made up of 14 Regional Vice Chairs (RVC), 1 Consultant (past RVC), 3 Vice Chairs (past Consultant), and Chair (past Vice Chair). Staff support includes a 3-member team based at ASHRAE Headquarters. The RP Campaign raises over \$2.2 million a year from over 6,000 donors. These donors are made up of ASHRAE Members, industry associations, and industry organizations.

Thanks to all who donated last year we raised \$24,679 and just missed our goal of \$27,00. This year we plan to exceed our goal of \$27,000 and we have already had some generous donors. The Following individuals and companies have generously supported ASHRAE Research and Golden Gate Chapter for 2016-17 Campaign.

With the help of following Donors and Golden Gate Chapter Volunteers, we were able to raise the most amount of Research Funds over the last 10-years. Golden Gate Chapter received Challenge RP award at Chapter Regional Conference.

Your contributions are much appreciated. Thank you for making a difference and shaping tomorrow's built environment today.



Donors in 2016-2017:

INDIVIDUALS 1000 to \$1999

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Thomas A Gilbertson

\$250 to \$999

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Donations are tax deductible, by check, credit card or online at

www.ashrae.org/contribute

Mail Checks to: ASHRAE RP: 1791 Tullie Circle, NE: Atlanta, GA 30329

For more information, please visit Research and Promotions section on

www.ggashrae.org

or contact RP Chair Jason Lesser at (510) 455-0062, jlesser@ami-hvac.com

GOAL:
\$27,000

CONTRIBUTIONS:
\$4,655

2017 Technology Awards

Last year we received a lot of great project submissions. 8 of the 10 submissions received both chapter and regional first place awards. 4 of the submitted projects were recognized in the national 2016 ASHRAE Technology Awards program and will be featured in ASHRAE journals next year:

- Shannon Allison, Integral Group (435 Indio Way) - First Place in Commercial Buildings – Existing.
- Adam Wheeler, Sherrill Engineering (UCSF PSSRB MBCx) - First Place in Other Institutional Buildings - EBCx.
- Nate Eppley, Integral Group (Milikan Laboratory & Andrew Science Hall) - Second Place in Educational Institutional Buildings – New.
- John McDonald, Integral Group (J. Craig Venter Institute) Honorable Mention in Other Institutional Buildings - New.

If you'd like to see your projects on the list for 2017, NOW is the time to submit! Entries must be submitted by **Friday March 23 2017**. The application and the process is very easy, get recognized for your great work.

IMPORTANT! Eligible projects must be occupied for one year prior to the national due date (September 2017), and one year of energy consumption data should be included. Your project must have been occupied by September 2016.

There are three stages of competition and awards: Chapter, Region and Society/National. The first step in this process is to submit your project to the Chapter level competition.

First place winners from the Chapter competition move onto the Regional competition. The Regional first place winners are eligible to move onto the national Society/National competition.

There are multiple Categories of buildings are eligible for application, new, existing and existing building commissioning (EBCx): Commercial, Institutional Educational, Institutional Other, Health Care, Industrial, Public Assembly, and Residential.

Please see our CTTC website or the following links for more info.

- Program Information: <https://www.ashrae.org/membership--conferences/honors--awards/technology-awards-program>
- Overview and Hints: <https://www.ashrae.org/membership--conferences/honors--awards/technology-awards-program-overview>
- Short Form Application: <https://www.ashrae.org/File%20Library/docLib/HonorsandAwards/AwardDocs/Tech-Award-Application-Short-Form-January-2016.pdf>

For any more information or for submissions please e-mail:

- Alex Fung, CTTC Co-Chair: AFung@integralgroup.com
- Zeid Arnaout, CTTC Co-Chair: ZArnaout@integralgoup.com

kW Engineering- Commissioning Agent

Are you passionate about saving energy in high performance buildings? kW Engineering is more than a company, we're a community of gifted engineers who are dedicated to having a real impact.

We are currently looking for a Commissioning Provider who has 3-5 years' experience, strong communication skills, detail oriented with strong technical skills and a solid understanding of engineering concepts and advanced problem-solving skills expected of a bachelor level engineering degree or above.

CCP, PE, LEED AP, and/or CLCATT Certifications a plus.

To learn more about the position please go to our website at www.kW-engineering.com under employment opportunities.

LEARNING OPPORTUNITIES

Upcoming PG&E free trainings on HVAC systems and related topics

Check the website for more details: <http://66.198.243.12/>

Charles Eley: Design Professional's Guide to Zero Net Energy Buildings

Thu January 26, 2017, 6:30pm-8:00pm at PEC, 851 Howard Street in SF.

Innovators Evening Lecture Series: David Baker Architects - At the Frontiers of Sustainable Urban Housing

Thu February 2, 2017, 6:00pm-8:00pm at PEC, 851 Howard Street in SF.

Air Sealing and Insulating Existing Homes

Tue March 7, 2017, 9:00am- 4:30pm at PEC, 851 Howard Street in SF.

Balanced Ventilation for High Performance Homes

Tue March 14, 2017, 9:00am- 4:30pm at PEC, 851 Howard Street in SF.

Energy Storage Systems

Thu March 30, 2017, 9:00am- 4:30pm at PEC, 851 Howard Street in SF.

Commissioning Residential Building Enclosures

Tue April 11, 2017, 9:00am- 4:30pm at PEC, 851 Howard Street in SF.

How to Design and Build High Performance Walls and Roofs

Thu April 20, 2017, 9:00am- 4:30pm at PEC, 851 Howard Street in SF.

Window Selection for New and Existing Homes

Fri April 21, 2017, 9:00am- 4:30pm at PEC, 851 Howard Street in SF.

Advanced Framing for Energy and Resource Efficiency

Fri May 12, 2017, 9:00am- 4:30pm at PEC, 851 Howard Street in SF

DECEMBER DINNER MEETING RECAP



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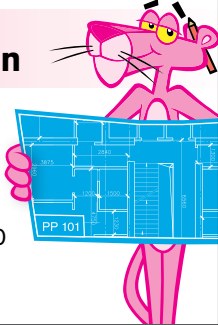
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